

REMARKS

Claims 1-20 are pending in the application.

Claims 1-20 are rejected.

Applicant respectfully thanks the Examiner for approving the proposed drawing correction filed on July 9, 2003.

Applicant respectfully thanks the Examiner for acknowledging foreign priority claim made under 35 U.S.C. § 119(a)-(d).

Claims 1-3 are currently amended to correct typographical errors.

Claims 1-20 remain in the case for consideration.

Applicant requests reconsideration and allowance of the claims in light of the following remarks.

Claim Rejections – 35 USC § 102

Claims 7, and 10-20 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No 6,265,232 issued to Simmons (“Simmons”).

Regarding claim 7, Simmons merely discloses markings showing the location of defects. Simmons does not disclose a marking configured to identify a type of defect. As taught in Simmons at column 3, lines 54-57, a defect file is generated that identifies a defect by its size. However, Simmons teaches at column 3, lines 58-60, that the wafer map 10 of FIG. 1 only indicates the location of defects 14.

The wafer map claimed in claim 7 of the present invention provides that “each marking is configured to identify a type of defect.” Thus, because Simmons fails to disclose each and every element of claim 7, this claim is believed to be allowable.

Claim 10 depends from claim 7, and for at least the reasons given for claim 7 this claim is believed to be allowable.

Regarding claim 11, Examiner cites column 4, lines 3-65 and FIGS. 3-4 of Simmons as disclosing the determining a composition of the wafer defects. The cited text and figures only disclose determining a location and size of defects. Simmons discloses specifically that analysis may be based on “(a) defect size and (b) location of the defect.” (Column 4, lines 42-43).

In the present invention the results of determining a composition of a defect are described in the specification in Table 1 on pages 5-6 and FIG. 3C. From this description, the composition of the defect refers to the chemical composition of the defect such as Al metal,

Al oxide, or Si metal, as shown in Table 1. Thus, because Simmons fails to disclose each and every element of claim 11, this claim is also believed to be allowable.

Claims 12, 14-18, and 20 depend from claim 11, and are also believed to be allowable for at least the reasons given for claim 11.

Claim 15 further claims “performing an AES analysis on the defects to determine the compositions thereof.” (emphasis added). The composition of a defect is described in Table 1 of the present invention on pages 5-6 of the specification as being the chemical composition of the defect such as Al metal, Al oxide, or Si metal. Simmons merely teaches determining the size of a defect and not the composition of a defect. Thus, because Simmons fails to teach each and every element of claim 15, the claim is allowable.

Claim 16 claims “constructing a table comprising columns corresponding to defect type, defect composition, defect cause, and defect location.” (emphasis added). Defect composition is described in Table 1 of the present invention on pages 5-6 of the specification as being the chemical composition of the defect such as Al metal, Al oxide, or Si metal. Simmons merely teaches determining the size of a defect and not the composition of a defect. Thus, because Simmons fails to teach each and every element of claim 16, the claim is allowable.

Claim 17 claims “preparing a bar graphs.” FIGS. 3 and 4 of Simmons disclose tables showing the number of defects but fails to disclose bar graphs. Thus, because Simmons fails to teach each and every element of claim 17, the claim is allowable.

Claim 18 is dependent on claim 11, and for at least the reasons given for claim 11 this claim is allowable.

Claim 19 is dependent from claim 18 and thus is dependent from claim 11, and is believed to be allowable for reasons discussed above. Also, claim 19 claims “determining a composition of the wafer defects are also performed electronically.” (emphasis added). The composition of a defect is described in Table 1 of the present invention on pages 5-6 of the specification as being the chemical composition of the defect such as Al metal, Al oxide, or Si metal. Simmons, at column 3, lines 55-58, only teaches “identifying each defect 14 and characterizing it by the die or dice 16 it affects (die location), and defect location on each die it affects (inner die location), and defect size.” Thus, because Simmons fails to teach each and every element of claim 19, the claim is allowable.

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Claim Rejections – 35 USC § 103

Claims 1-6, 8-9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simmons.

Regarding claim 1, the Examiner correctly explains that Simmons fails to disclose using different types of marks to identify different types of defects. However, Simmons also fails to disclose “analyzing the defect composition.” The composition of a defect is described in Table 1 of the present invention on pages 5-6 of the specification as being the chemical composition of the defect, for example, such as Al metal, Al oxide, or Si metal. Simmons, at column 3, lines 55-58, only teaches “identifying each defect 14 and characterizing it by the die or dice 16 it affects (die location), and defect location on each die it affects (inner die location), and defect size.”

The Examiner also cites *In re Seid*, 161 F.2d 229, 73 USPQ 431 (CCPA 1947), as supporting that using different types of marks to identify different types of defects on a wafer map is obvious due to the fact that the marks are only ornamental. The case cited by the Examiner dealt with the ornamental positioning of arms on a human figurine positioned on a bottle. Here, different types of marks relate to the very thing claimed in the invention: a method of classifying chip defects. “A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from prior art.” *In re GPAC, Inc.*, 57 F.3d 1573, 1582, 35 USPQ2d 1116, 1123 (Fed. Cir. 1995). The Examiner has failed to cite any evidence as to why it would have been obvious to use different types of marks to identify different types of defects, which as the present invention describes, will provide an improved map of wafer defects (page 4, lines 5-15).

Thus, each and every element of claim 1 is not obvious and claim 1 is allowable.

Regarding claims 2-3, these claims depend from claim 1 and deal with the same subject matter of using different types of marks. For at least the reasons given for claim 1, claims 2-3 are allowable.

Regarding claims 4-6, these claims depend from claim 1, and for at least the reasons given for claim 1, these claims are also allowable.

Regarding claims 8-9, for the same reasons given for claim 1 on the issue of using different types of marks, these claims are allowable.

Regarding claim 13, this claim depends from claim 12 which depends from claim 11. The Examiner recognized that Simmons fails to disclose using different colors of marks to identify different types of defects. Simmons also fails to disclose “determining a composition

of the wafer defects” as is claimed in claim 11. The composition of a defect is described in Table 1 of the present invention on pages 5-6 of the specification as being the chemical composition of the defect, for example, such as Al metal, Al oxide, or Si metal. Simmons, at column 3, lines 55-58, only teaches “identifying each defect 14 and characterizing it by the die or dice 16 it affects (die location), and defect location on each die it affects (inner die location), and defect size.”

Thus, for the reasons stated regarding composition of a defect and for the same reasons presented above in claim 1 on the issue of using different types of marks for different types of defects, claim 13 is also allowable.

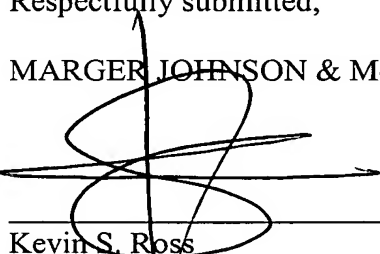
CONCLUSION

For the foregoing reasons, reconsideration and allowance of claims 1-20 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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